

# **RIGGING INSTRUCTIONS FOR THE MT-1S RESERVE PARACHUTE**

**Compiled in Boise, Idaho  
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1. Insure that the canopy is OK to rig, if there is any question about the parachute's condition **Inspect** it. The importance of our reserve canopies being in good condition is obvious, **a life may depend on it.**
2. Inspect both the free bag and container for damage. Make sure the Cypres off/on switch functions. Perform the self test for the Cypres unit.
3. Replace elastic loop if it is worn or distended.
4. Replace closing loops.



5. Impregnate exposed portion of closing loop with silicone.



## 6. Tools Required:

- 1 - Three pull-up cords (two of them Spectra 5 feet long)
- 2 - Three temporary pins with tails sewn together.
- 3 - Two Velcro covers
- 4 - Packing paddle
- 5 - Lead seal and safety thread
- 6 - Seal press
- 7 - 1" masking tape
- 8 - Pen & marker



7. The differences between the main and reserve are that the reserve has only 5 cells, no packing tabs, and the brakes are stowed differently. The rigging steps for the reserve and main are the same through forming the squid.

8. The parachute has been laid out, a 6-line check completed, flaked and S-folded. Now we'll set the deployment brakes.



9. Open the toggle Velcro covers on a riser. Locate the toggle, the 2 inch loop that is sewn to the riser, the guide ring and the finger trapped loop in the steering line.



**10.** Pull the steering line down until the finger trapped loop is just above the guide ring and insert the 2 inch loop through the finger trapped loop in the steering line.



**11.** Pull the steering line through the guide ring until both the 2 inch loop and the finger trapped loop in the steering line are both through the guide ring.





**12.** Insert the bar tacked end of the toggle through the 2 inch loop as far as it will easily go and mate the Velcro on the toggle to the Velcro on the riser.



**13.** S-fold the excess steering line alongside and on top of the toggle, then close the Velcro keepers. Repeat the same process for the other side.

(NOTE) The excess steering lines on both sides are folded to the left.



**14.** Now, just like on the main, clear the stabilizers, flake the tail and make the squid. Bring the slider up to the stabilizer stops and lay it on the line groups. Fold the stabilizer over the slider, S-fold the slider and stabilizer on top of the canopy and then tuck this fold under the tail.



**15.** At the point equal to the width of the free bag, fold the canopy over onto itself. Pull out the nose and spread it across the width of the dressed canopy.



**16.** Fold the top of the canopy back onto itself.





**17.** Fold the top of the canopy again onto the exposed nose. This last fold should be shorter than the bottom fold. This places the bulk of the material closer to the base of the container and allows the top to take a wedge shape, conforming to the dimensions of the free bag and container.



**18.** Slide the free bag over the canopy. Compress the canopy into the free bag as far as possible.



**19.** While keeping equal tension on the lines, route the lines out of the free bag between the locking stow grommets. Use a temporary pin or a pen to keep the right side of the shock cord from pulling through the grommet. Make a locking stow with a 3 inch bight on the left side.



**20.** Make a second locking stow on the right side. Pull out the slack between the grommets caused by the shock cord.



**21.** Stand up the freebag so the end with the locking stows is up. Put the Velcro covers on the hook Velcro to prevent the steering lines from snagging.



**22.** S-fold the lines into the pocket starting in the opposite corner from the second locking stow.



**23.** Do not allow the lines in the pocket to overlap.



**24.** Stow the lines until there is approximately 6 inches of line length remaining between the French links and the line stow pocket. Close the line stow pocket. Remove the Velcro covers and mate the Velcro on the pocket. All the lines should be between the Velcro closures. Avoid snagging lines on the hook Velcro.



**25.** Place the risers in the container. Separate the French links so that they will lay flat against the container.



**26.** The bottom of the barrel locks, (in the open position), should be just above the edge of the container.



**27.** Run the Velcro wraps through the carabiners and pull them down snug to hold the carabiner in place. Wrap the Velcro around the risers, capturing the end of the toggle under the Velcro, and mate it to the hook Velcro beneath the risers.





**28.** Position the top flap over the carabiners and mate the corner tabs to the Velcro wraps.



**29.** Separate the french links and lay them flat against the bottom of the container.



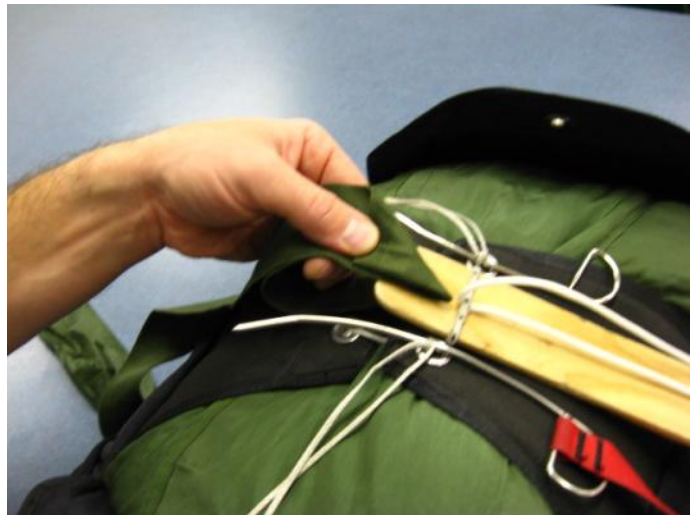
**30.** Roll the canopy over onto the risers and container. The line stow pocket will face up. Run the risers along the edge of the container to the bottom corners. Any slack in the line between the French links and the line stow pocket can be tucked into the line stow pocket with a short S-fold. Seat the bag into position in the container.



**31.** Close the staging flaps. Route the pilot chute bridle between the right side closing loop and the center loop. Use the Spectra pull-up cords on the outside closing loops and the regular pull-up cord in the center. Secure them with temporary pins.



**32.** Approximately 4 inches below the edge of the upper staging flap, fold the bridle back on itself. Make a 45 degree fold to begin the needle fold.



**33.** Make a second fold to complete the needle fold. Remove the closing pin and seat the needle fold 1 1/2 inch into the shockcord loop, and remove the pull-up cord.



**34.** Extend the bridle to its full length and remove any twists. Bring the pilot chute to the container. Thread the pull-up cords through the middle of the coil spring and out the grommets on the cap of the pilot chute. Ensure the pull up cords run through the middle of the spring.





**35.** Compress the pilot chute, being careful not to pinch any canopy fabric between the coils of the spring (this causes damage). Pull the closing loops through the grommets and secure them with temporary pins. Pull all the netting and material out and away from under the spring.



**36.** Roll the pilot chute material and netting up and tuck it under the cap of the pilot chute. Do not tuck any material under the bottom coil of the pilot chute spring. Any excess material can be stuffed under the side flaps.



**37.** Close the side flaps and secure them with temporary pins.





**38.** S-fold the bridle across the bottom of the lower staging flap. The Bridle should be as wide as the side closing flaps.



**39.** Run the pull-up cords through the CYPRES cutters in the bottom flap. Close the bottom flap carefully, keeping the bridle folds stacked neatly.



**40.** Secure the flap with temporary pins.



41. Close the top flap and secure it with the reserve handle pins. The reserve static line system must be in place on the pins before the pins are placed through the closing loops.



42. Check the reserve static line for proper routing and remove the pull-up cords. Seal the parachute using red safety thread, a lead seal and a seal press.



43. Do a self test of the Cypres unit and check the switch. Check the hook knife. Put the due date on a piece of tape, as shown. Due date is 180 days from day the parachute is packed. Fill out the data card, your personal log and master log.



44. Count your tools to ensure you have not rigged them into your Reserve.

## **MT-1S BREAKDOWN INSTRUCTORS NOTES**

### **TOOLS COUNTED**

CONSEQUENCES OF RIGGING A TOOL IN A PARACHUTE COULD INTERFERE WITH NORMAL DEPLOYMENT

### **PAPERWORK**

4 PLACES: TAPE ON CONTAINER, PACKING CARD, PERSONAL LOG BOOK, MASTER LOG BOOK  
REQUIRED BY THE FAA

### **CYPRES**

PERFORM SELF TEST  
TEST SWITCH.

### **CONTAINER**

DRESSED NEATLY, NOT LUMPY, CORNER TABS TUCKED IN  
NO CANOPY OR FREE BAG MATERIAL EXPOSED

### **HOOK KNIFE**

INSPECT BLADES FOR BURRS OR BAD EDGES  
MAKE SURE THE PLASTIC PORTION OF THE KNIFE ISN'T BENT  
THE BLADE FACES OUT

### **HANDLE**

MATED CORRECTLY TO VELCRO

### **RESERVE STATIC LINE**

MATED TO VELCRO  
ATTACHED TO PINS CORRECTLY  
NO TWISTS

### **SEAL AND THREAD**

THREAD PLACED THROUGH THE EYES OF BOTH PINS AROUND THE CLOSING LOOPS UNDER THE PINS AND  
INSIDE OF THE GROMMETS WITH ½ INCH OF PLAY  
LEAD SEAL SHOULD BE SEALED WITH THE RIGGER'S SYMBOL VISIBLE  
RED THREAD SHOULD HAVE A LITTLE SLACK TO KEEP IT FROM ACCIDENTLY BREAKING

### **CLOSING PINS**

SEATED AT LEAST ¾ OF THE WAY IN

### **CLOSING SEQUENCE**

CLOSED IN ORDER  
SHOULDN'T SEE PILOT CHUTE BRIDLE

### **PILOT CHUTE NET AND CLOTH**

SHOULDN'T CATCH ON THE CONTAINER WHEN CHUTE IS OPENED  
STOWED NEATLY

### **BRIDLE FOLDS**

CORRECT SEQUENCE

### **NEEDLE FOLD**

FIRST FOLD SHOULD BE 4 INCHES BELOW THE EDGE OF THE UPPER STAGING FLAP  
THE EDGE OF THE FIRST FOLD SHOULDN'T GO PAST THE EDGE OF THE SHOCK CORD LOOP

### **BRIDLE UNTWISTED**

### **STAGING FLAPS**

BRIDLE BETWEEN CENTER AND RIGHT GROMMETS  
MINIMIZE BUNCHING ON THE LINE STOW POCKETS

### **FREE BAG PLACEMENT**

FREE BAG SHOULD BE ROLLED INTO THE CONTAINER WITH THE LINE STOW POCKET UP  
NO EXCESS LINE SLACK

### **FRENCH LINKS**

TUCKED INTO CORNERS

### **CARIBINER ALIGNMENT**

VELCRO WRAPS THROUGH BINERS



TOP FLAP OVER BINERS  
CORNER TABS MATED TO THE VELCRO FLAPS

**RISERS MATED**

MATED TO THE VELCRO ON THE CONTAINER SO THE BINER BARRELS WHEN OPEN ARE JUST PAST THE EDGE OF THE CONTAINER

**LINE STOW POCKET**

VELCRO MATED SO NO LINES CAN SNAG ON HOOK VELCRO

**LINE STOWS**

NEAT  
S-FOLDED LINES SHOULDN'T OVERLAP  
LINES SHOULD PLAY OUT NEATLY AND EASILY

**LOCKING STOWS**

ALL LINES THROUGH BOTH STOWS  
3" BIGHTS  
NO SLOP BETWEEN STOWS  
EVEN LINE TENSION  
FIRST STOW ON LEFT  
SHOCK CORD OVERLAP (ZIG-ZAGGED PORTION) SHOULD BE IN POCKET

**CANOPY STACK**

FOLDS EVEN SIZE AND SHAPE  
EVENLY DISTRIBUTED THROUGHOUT BAG

**NOSE EXPOSED**

EXPOSED TO THE WIDTH OF THE STACK  
ALL FIVE CELLS SHOULD BE CENTERED

**SLIDER**

SHOULD BE TIGHT AGAINST SLIDER STOPS  
NOT INVERTED – TAPE UP  
WHEN SLID TO RISERS THE FORWARD GROMMETS SHOULD LIFT REAR RISERS

**LINES CENTERED**

CENTERED OVER CANOPY S-FOLDS AND PRECEDING LINE GROUPS  
LINES SHOULD BE VISIBLE TO THEIR ATTACHMENT POINTS

**STABILIZERS**

STABILIZER MATERIAL CLEAR OF LINES  
NOT FOLDED ALTERNATELY SIDE TO SIDE  
NEAT

**TAIL FLAKED NEATLY**

CENTERED  
NOT SPREADING APART  
SPLIT EVENLY

**BRAKE STOWS**

LOOP THROUGH SUNDT AND RING  
BEAK THROUGH LOOP  
NO ADDED TWISTS  
EXCESS STEERING LINE SHOULD BE S-FOLDED ALONG SIDE AND ON TOP OF THE TOGGLE UNDER THE VELCRO KEEPERS

**CANOPY S-FOLDS**

LINE GROUPS AND S-FOLDS SHOULD BE CENTERED OVER EACH

**4-LINE**

CLEAR AND ATTACHED TO OUTSIDE OF FRENCH LINKS

**STEERING LINES CLEAR**

UNTANGLED / UNTWISTED  
ABOVE AND FREE OF OTHER LINES

**GENERAL NEATNESS**

GENERAL IMPRESSION OF OVERALL PACK JOB